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Walter A Hackler				
Patent Law Office				
2372 S E Bristol Street				
Suite B				
Newport Beach, CA 92660-0755				
			EXAMINER	
			FLETCHER III, WILLIAM P	
			ART UNIT	PAPER NUMBER
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			01/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/523,573

Applicant(s)

BINKLE ET AL.

Examiner

William P. Fletcher III

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-33 is/are pending in the application.
- 4a) Of the above claim(s) 30-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/7/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of group I, claims 19-29, in the reply filed on May 5, 2007, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 30-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 5, 2007.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on December 7, 2005, is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

5. The abstract of the disclosure is objected to because it fails to recite process steps. Correction is required. See MPEP § 608.01(b).
6. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be

implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

8. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

A. Claim 22 recites "...that an organo-metallic compound is used as inorganic binding agent." The antecedent basis for this claim's subject matter was deleted from the specification by the amendment filed August 29, 2005:

On page 3, please replace the paragraph beginning at line 1 with the following paragraph:

The easy-to-clean property of the inventive layer is based on the presence of boron nitride particles which are concentrated in the uppermost layer of the coating. Inorganic nanoparticles serve as inorganic binder system, in particular nanoparticles of the compounds Al_2O_3 , $\text{AlO}(\text{OH})$, ZrO_2 , Y-ZrO_2 , TiO_2 , SiO_2 , Fe_2O_3 , and SnO_2 , or an associated precursor compound which is converted into nanoparticles of one of the mentioned compounds during the production process. ~~Alternatively, also glass-like binder systems on the basis of metal organyl compounds can be used.~~

Claim Objections

9. Claim 22 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous

claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

- A. This claim recites that the inorganic binding agent is an organo-metallic compound. This fails to further limit independent claim 19 because claim 19 is limited to “substantially Al_2O_3 , $\text{AlO}(\text{OH})$, ZrO_2 , Y-ZrO_2 , TiO_2 , SiO_2 , Fe_2O_3 , and SnO_2 ,” which does not recite any organo-metallic compounds.
10. Claims 19 and 27 are objected to because of the following informalities:
- A. Claim 19 should, apparently, read “Method for producing a ceramic coating ~~[[of]]~~ on metallic and/or ceramic surfaces and products in reactors...”.
- B. Claim 19 should, apparently, read “...and the applied mixture is burned into a coating through heating.”
- C. Claim 27 should, apparently, read “...before operational start of the reactor...” or “...before operationally starting ~~[[of]]~~ the reactor...”.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 19-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. In claim 19, the phrase "...containing substantially Al_2O_3 , $\text{AlO}(\text{OH})$, ZrO_2 , Y-ZrO_2 , TiO_2 , SiO_2 , Fe_2O_3 , and SnO_2 or an associated precursor compound..." is indefinite because it is impossible to tell whether all of the recited elements are required or are part of an alternative recitation. In other words, the phrase "containing substantially a, b, c, and d," appears to imply that all of a, b, c, and d, be present, but the instant specification appears to present these elements as optional elements of an alternative recitation. The Examiner suggests the following more conventional Markush language (see MPEP 2173.05(h)):

"...at least one inorganic binding agent of medium particle size in the nanometer range, selected from the group consisting of ~~containing~~ ~~substantially~~ Al_2O_3 , $\text{AlO}(\text{OH})$, ZrO_2 , Y-ZrO_2 , TiO_2 , SiO_2 , Fe_2O_3 , ~~[[and]]~~ SnO_2 , and ~~[[or]]~~ an associated precursor compound..."

For the purposes of searching and evaluating the prior art, the Examiner has interpreted the claim in this fashion.

B. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly

set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 23 recites the broad recitation "<100nm," and the claim also recites "preferably <50nm, in particular <20nm," which is the narrower statement of the range/limitation.

C. In claim 24, the phrase "...contains substantially ethanol, 1-propanol, 2-propanol, 2-butoxyethanol and/or water..." is indefinite because it is impossible to tell whether all of the recited elements are required or are part of an alternative recitation. In other words, the phrase "containing substantially a, b, c, and/or d," appears to imply that at least all of a, b, and c, be present, but the instant specification appears to present these elements as optional elements of an alternative

recitation. The Examiner suggests the following more conventional Markush language (see MPEP 2173.05(h)):

“...the solvent is selected from the group consisting of ~~contains~~ substantially ethanol, 1-propanol, 2-propanol, 2-butoxyethanol and[[/or]] water...”.

For the purposes of searching and evaluating the prior art, the Examiner has interpreted the claim in this fashion.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. **Claims 19-21, 23-25 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 4 411 862 (see attached machine translation).**

A. DE '862 teaches a process in which the claimed composition is formed into a green body and sintered.

B. DE '862 does not explicitly teach that the claimed composition is applied as a coating to a metallic and/or ceramic surfaces and products in reactors, process plants, and combustion plants.

C. Nevertheless, since DE '862 teaches the same materials and sintering steps as claimed, it is the Examiner's position that the composition of DE '862 is inherently capable of forming a film on a surface and it would have been obvious to form such a film on any suitable surface, including the specifically claimed metallic and/or ceramic surfaces and products in reactors, process plants, and combustion plants, to impart the desired properties thereto, absent evidence to the contrary. Rinsing, rolling, immersion, and/or flooding are known expedients for application of coating materials and would have been readily obvious to one skilled in the art.

Allowable Subject Matter

16. Claims 22 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter: The prior art neither teaches nor suggests the claimed process in which the inorganic binding agent is an organo-metallic compound (claim 22) or in which the burning-in is carried out through heating operation of the reactor, etc. (claim 26)

WPF
01/03/2008

Conclusion

18. The prompt development of clear issues in the prosecution history requires that applicant's reply to this Office action be fully responsive (MPEP § 714.02). When filing an amendment, applicant should specifically point out the support for any amendment made to the disclosure, including new or amended claims (MPEP §§ 714.02 & 2163). A fully responsive reply to this Office action, if it includes new or amended claims, must therefore include an explicit citation (i.e., page number and line number) of that/those portion(s) of the original disclosure which applicant contends support(s) the new or amended limitation(s).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (571) 272-1419. The examiner can normally be reached on Monday through Friday, 0900h-1700h.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William Phillip Fletcher III/
Primary Examiner

January 3, 2008